

TSR 4-TIME STAMP RECORDER 4



RECORD "HIT" TIME AND POSITION FOR USE WITH AUTONOMOUS RECORDING SYSTEMS

Fast and Simple

The Time Stamp Recorder 4 (TSR 4) is designed to record the precise hit time and position for each shot. The GPS time and position of every hit is stored on a removable memory plug. This data is then used by the autonomous recording system to produce shot records.

The optional Navigation Application:

- Runs on Android device, including tablets and cell phones.
- Navigate source to preloaded points.
- Backs up T0 times as they happen.
- Displays shot status information.
- Supports user with Red light or Green Light operation status.
- Adds real-time navigation with detailed map to the next source point.
- Operator can easily add comments to log their process.
- Log file automatically generated with all the shooting information, including shot line and station numbers, shot time stamps and GPS shot locations.

At the end of the day the Ruggedized USB-compatible Memory Plug can be removed to harvest data and create shot files with the autonomous recording system's data.



Features and Benefits

Autonomous - Just like any autonomous nodal system, this TSR 4 makes any impact source fully autonomous.

Precision - The TRS 4 uses GPS to monitor all source locations and to determine exact trigger times.

Navigation - Optionally, connect a TRS 4 to a tablet or cell phone to guide the source to the next shot point quickly and efficiently.

Real-Time Logging - With the TRS 4 connected to the Navigation App, the crew can add comments and creates their observer log as they shoot, increasing accuracy and reducing errors.

Security - With the optional Navigation App, all the shooting data, including locations and time stamps, is backed up as each shot point is acquired.

Compatibility - The TSR 4 system creates a data harvesting file compatible with most autonomous recording seismographs.

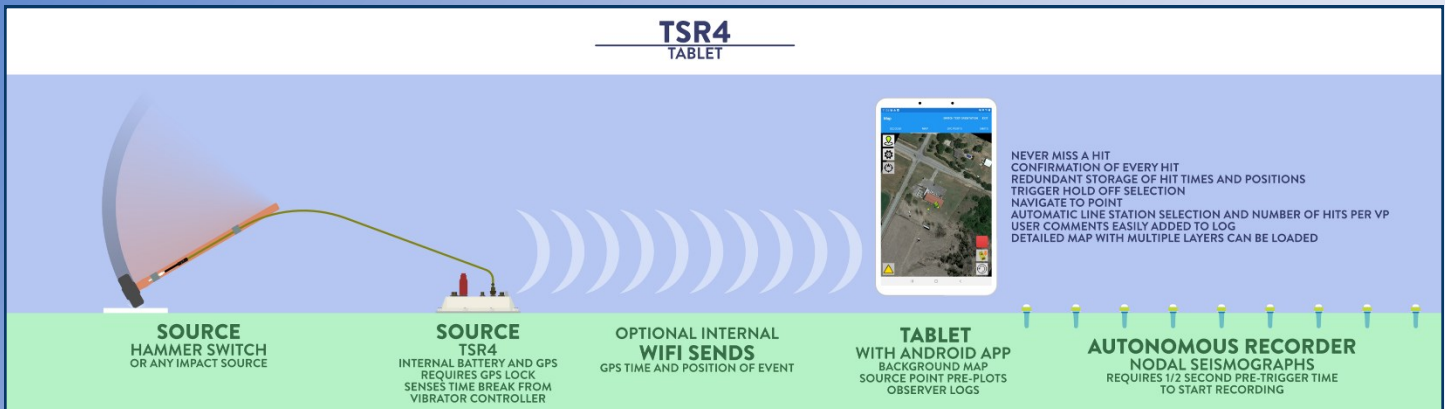
Reliability - Never miss a shot time with the TRS 4 redundant storage using the Android Navigation App.

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Using the Time Stamp Recorder 4 with an Android Cell phone or Tablet:

- Connect the TSR 4 to the source's hammer switch.
- Connect TSR 4 to the Android tablet using the internal Wi-Fi radio and start the Navigation App.
- Load detail map or shoot on the fly.
- The source Operator selects the source point on the tablet and navigates to it.
- After shooting the point, the TSR 4 sends the hit location and time to Navigation App.
- The Navigation App creates an entry in its Observer Log completing acquisition process.
- Back in the office, the tablet's information is used for data harvesting, processing, and interpretation.



Time Stamp Recorder 4 Specs

Trigger Signal.....TTL or Switch Closure
 Trigger InputDetects Negative Edge
 Internal GPS.....Standard
 Internal Wi-FiStandard
 External Memory16 GB Ruggedized Plug
 Cycle Time.....2 mSeconds
 Accuracy±1 μSeconds
 Weight.....2.5 lbs. (1 kilogram)
 Size11.5 x 7.25 x 3.0 inches
 (292 x 184 x 76 mm)
 Without antenna

Time Stamp Recorder 4 Options

Internal LiOn Battery

Battery: 99.9 watt-hour
 Run Time: > 72 hours

External GPS

Identical Specifications to Internal Module